

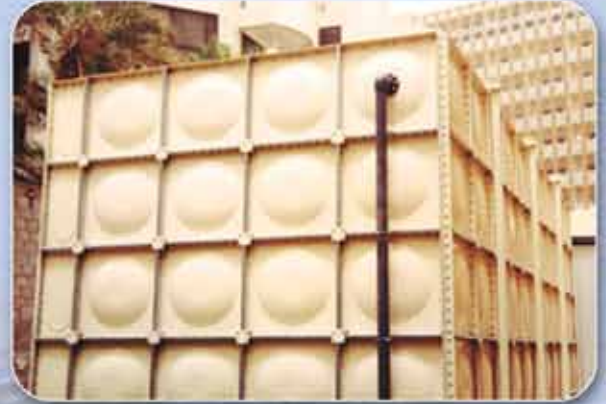


شركة مصنع الوطنية

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WATANIYA FIBER GLASS

Reinforced Plastic Factory Co. W.L.L.





WATANIYA FIBER GLASS



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“WATANIYA FIBER GLASS” REINFORCED PLASTIC FACTORY CO.

Is the first in Middle East using hydraulic hot press system for manufacturing G.R.P sectional panel tank. WATANIYA offers the latest designs and materials for storing potable water, chemicals and free flowing solids. WATANIYA also manufacture GRP tanks for sewage use with a special resin coating inside.

WATANIYA G.R.P. Panel tanks are high corrosion resistance with advanced method for liquid storage.

The basic section is 1000mm x 1000mm and 1000mm x 500mm flanged on all four sides, permitting the construction of tanks with a capacity of 250 gallons to 300,000 gallons or any other capacity required.



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Advantages and Characteristics

(1) HIGHLY HYGIENIC GRP

Panels are made of GRP (glass fiber reinforced plastics). The stainless steel reinforcement material used for inside of the tank eliminates any possibility of corrosion or rusting and supplies highly hygienic water at all times.

(2) EASY HANDLING AND ASSEMBLY

WATANIYA Panels are assembled using a small number of bolts per meter. This shortens the period of construction and at the same time improves the work efficiency at any site.



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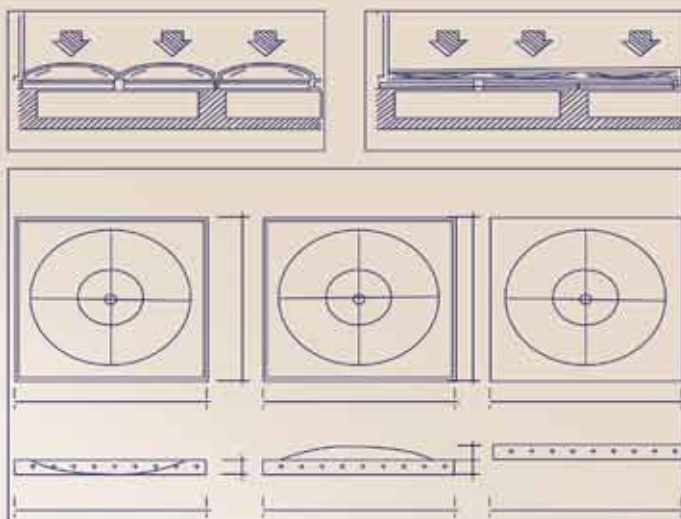


(3) EASY MAINTENANCE

The Type of panel used as bottom plate is smooth panel with mountain-shaped rise. The joint of each bottom plate with the next plate forms well to allow to flow easily to the drain panel.

(4) PERFECT LOAD-DISPERSION PLAN HYDRAULIC PRESSURE RESISTANCE PANEL

Each GRP panel has a round shape to avoid any sharp angles so that water load may not concentrate on one spot and, the round shape can disperse and relax stress. The water pressure on the round shape of bottom panels closes the joints between them. Moreover the panel thickness has been set up in accordance with hydraulic pressure.



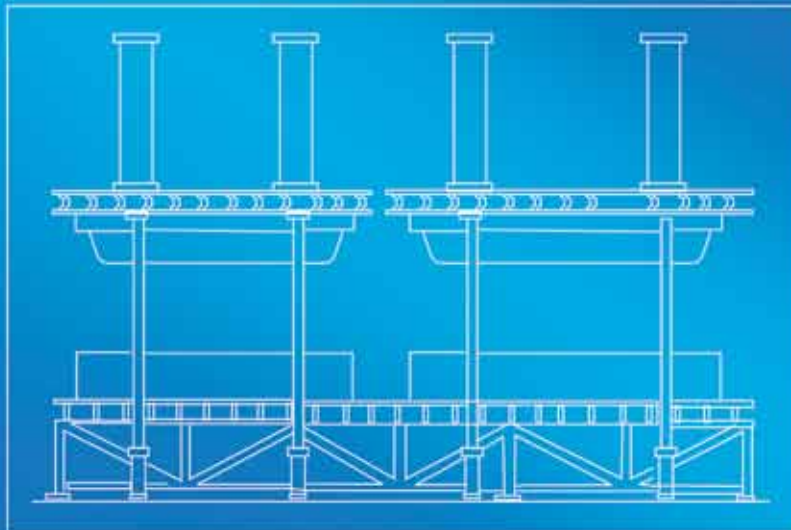
- Stainless Steel Bolts are Used To Avoid Rusting Inside The Tank



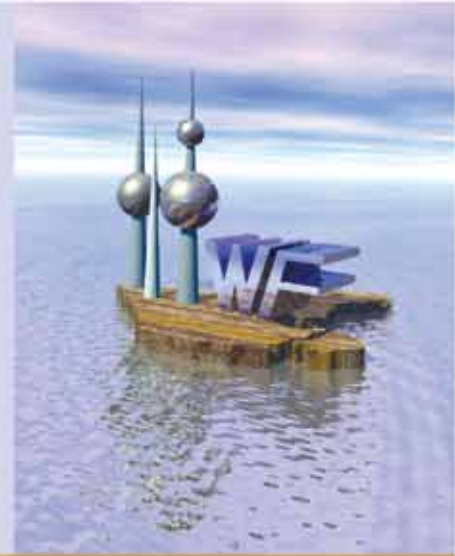
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(5) POSSIBLE TO USE ORDINARY FLANGE FOR PIPING CONNECTION

The surface on the corners and on the centre of the panel allow the use of ordinary flange available in the market which is to be connected at right angles against the panel surface.



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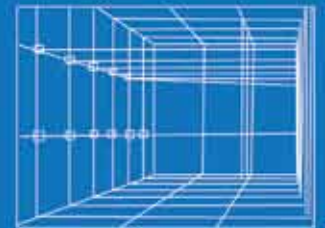
AREAS OF APPLICATION

The following are some of the applications where G.R.P tanks may be used successfully:

- Potable water supply.
- Chemical industries-breweries, dairy products, distilled detergents, fertilizers, tanning, etc.,
- Water storage for fire prevention and other uses,
- Agriculture, vegetable oil, etc.,
- Irrigation installations,
- Household water storage,

TYPICAL PROPERTIES OF WATANIYA GRP TANK

Items	Value
1 Water Absorption	Below 0.05%
2 Specific Gravity	1.6
3 Barcol Hardness	Over 50
4 Bending (Flexural) Strength	185-195 Mpa
5 Tensile Strength	100 Mpa
6 Shear Strength	108 Mpa
7 Compression Strength	168 Mpa
8 Impact Strength	78 KJ/m ²
9 Coefficient Of Thermal Expansion	2.1×10^{-5} (1° C)
10 Glass Content	Over 30 %
11 Light Transmission	Nil
12 Soaking Microbiologist Chemical Resistance	Nil
13 Sealant	Special Rubber
Toxicity Test	Nil
Stability	OK



- Internal Reinforcement with Stainless Steel Diagonal Struts



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The panel possesses high strength to weight ratio. Are weather resistant, non-toxic and do not contaminate water. The panel shape has been meticulously designed to resist heavy hydrostatic loads, reduce distortion, to ensure many years of maintenance free service.

Base and Roof Panel: Designed domed panels to take compressive loads to make them self sealing and self draining. In such shape load transferred to the flanges.

Side Panel: Designed to be used for maximum strength and appearance. Their central shell portion designed to take tensile loads.

Lid Panel: Specially designed and hinged Lid panel equipped with a water tight seal which also prevents contaminants from

entering the tank.

Partition: Tanks can be partitioned according to design or application requirements. Bracing System: Internal and External bracing available.

Ladders: Internal ladder of stainless steel and external ladder of Galvanized. Connection: Standard uPVC fittings flanged type.

Installation: WATANIYA panels are precision designed and engineered to ensure speed and ease of assembly. Warranty: WATANIYA G.R.P. Panel tanks are warranted for a period of ten years for maintenance in normal circumstance where the product is used for its extended purpose and regular inspections are undertaken.

COMPARISON OF SECTIONAL PANEL TANKS WITH OTHER TYPE OF TANKS

ITEMS	CONCRETE	MS SECTIONAL TANK	SS SECTIONAL TANK	GRP HAND LAY UP SECTIONAL TANK	PANEL TANK
Durability	●	●	▲	●	■
Water Quality	◆	■	▲	◆	■
Water Tightness	●	●	▲	◆	■
Transport & Assembly	■	●	●	●	■
Corrosion & Resistance	●	◆	▲	▲	■
Maintenance Freedom	◆	◆	●	●	■
Cleaning	◆	◆	▲	▲	■

■ Excellent

▲ Good

● Fair

◆ Poor

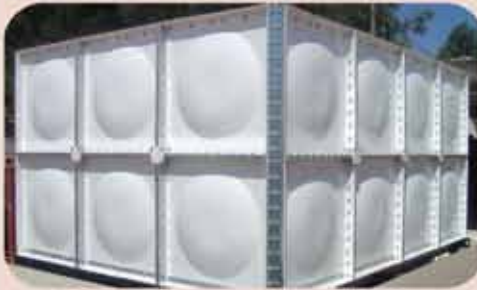
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HEIGHT OF TANKS



G.R.P TANK
HEIGHT 1M



G.R.P TANK
HEIGHT 2M



G.R.P TANK
HEIGHT 3M




G.R.P TANK
HEIGHT 4M



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NOMINAL CAPACITY DATA

NOMINAL CAPACITY DATA



Length	Width	1.00m	1.50m	2.00m	2.50m	3.00m	3.50m	4.00m							
1.00m	1.00m	1000	220	1500	330	2000	440	2500	550	3000	660	3500	770	4000	880
1.50m	1.00m	1500	330	2250	495	3000	660	3750	825	4500	990	5250	1155	6000	1320
2.00m	1.00m	2000	440	3000	660	4000	880	5000	1100	6000	1320	7000	1540	8000	1760
2.50m	1.00m	2500	550	3750	825	5000	1100	6250	1375	7500	1650	8750	1925	10000	2200
3.00m	1.00m	3000	660	4500	990	6000	1320	7500	1650	9000	1980	10500	2310	12000	2640
4.00m	1.00m	4000	880	6000	1320	8000	1760	10000	2200	12000	2640	14000	3080	16000	3520
2.00m	1.50m	3000	660	4500	990	6000	1320	7500	1650	9000	1980	10500	2310	12000	2640
2.50m	1.50m	3750	825	5625	1237	7500	1650	9375	2062	11250	2475	13125	2887	15000	3300
3.00m	1.50m	4500	990	6750	1485	9000	1980	11250	2475	13500	2970	15750	3465	18000	3959
4.00m	1.50m	6000	1320	9000	1980	12000	2640	15000	3300	18000	3959	21000	4619	24000	5279
2.50m	2.00m	5000	1100	7500	1650	10000	2200	12500	2750	15000	3300	17500	3849	20000	4399
3.00m	2.00m	6000	1320	9000	1980	12000	2640	15000	3300	18000	3959	21000	4619	24000	5279
4.00m	2.00m	8000	1760	12000	2640	16000	3520	20000	4399	24000	5279	28000	6159	32000	7039
5.00m	2.00m	10000	2200	15000	3300	20000	4399	25000	5499	30000	6599	35000	7699	40000	8799
6.00m	2.00m	12000	2640	18000	3959	24000	5279	30000	6599	36000	7919	42000	9239	48000	10559
3.00m	3.00m	9000	1980	13500	2970	18000	3959	22500	4949	27000	5939	31500	6929	36000	7919
4.00m	3.00m	12000	2640	18000	3959	24000	5279	30000	6599	36000	7919	42000	9239	48000	10559
5.00m	3.00m	15000	3300	22500	4949	30000	6599	37500	8249	45000	9899	52500	11548	60000	13198
6.00m	3.00m	18000	3959	27000	5939	36000	7919	45000	9899	54000	11878	63000	13858	72000	15838
7.00m	3.00m	21000	4619	31500	6929	42000	9239	52500	11548	63000	13858	73500	16168	84000	18477
8.00m	3.00m	24000	5279	36000	7919	48000	10559	60000	13198	72000	15838	84000	18477	96000	21117
4.00m	4.00m	16000	3520	24000	5275	32000	7039	40000	8799	48000	10559	56000	12318	64000	14078
5.00m	4.00m	20000	4399	30000	6599	40000	8799	50000	10998	60000	13198	70000	15398	80000	17598
6.00m	4.00m	24000	5279	36000	7919	48000	10559	60000	13198	72000	15838	84000	18477	96000	21117
7.00m	4.00m	28000	6159	42000	9239	56000	12318	70000	15398	84000	18477	98000	21557	112000	24637
8.00m	4.00m	32000	7039	48000	10559	64000	14078	80000	17598	96000	21117	112000	24637	128000	28156
6.00m	5.00m	30000	6599	45000	9899	60000	13198	75000	16498	90000	19797	105000	23097	120000	26396
7.00m	5.00m	35000	7699	52500	11548	70000	15398	87500	19247	105000	23097	122500	26946	140000	30796
8.00m	5.00m	40000	8799	60000	13198	80000	17598	100000	21997	120000	26396	140000	30796	160000	35195
7.00m	6.00m	42000	9239	63000	13858	84000	18477	105000	23097	126000	27716	147000	32335	168000	36955
8.00m	6.00m	48000	10559	72000	15838	96000	21117	120000	26396	144000	31676	168000	36955	192000	42234
9.00m	6.00m	54000	11878	81000	17817	108000	23757	135000	29696	162000	35635	189000	41574	216000	47513
10.00m	6.00m	60000	13198	90000	19797	120000	26396	150000	32995	180000	39594	210000	46193	240000	52793
7.00m	7.00m	49000	10778	73500	16168	98000	21557	122500	26946	147000	32335	171500	37725	196000	43114
8.00m	7.00m	56000	12318	84000	18477	112000	24637	140000	30796	168000	36955	196000	43114	224000	49273
9.00m	7.00m	63000	13858	94500	20787	126000	27716	157500	34645	189000	41574	220500	48503	252000	55432
10.00m	7.00m	70000	15398	105000	23097	140000	30796	175000	38495	210000	46193	245000	53892	280000	61591
8.00m	8.00m	64000	14078	96000	21117	128000	28156	160000	35195	192000	42234	224000	49273	256000	56312
9.00m	8.00m	72000	15838	108000	23757	144000	31676	180000	39594	216000	47513	252000	55432	288000	63351
10.00m	8.00m	80000	17598	120000	26396	160000	35195	200000	43994	240000	52793	280000	61591	320000	70390
9.00m	9.00m	81000	17817	121500	26726	162000	35635	202500	44544	243000	53452	283500	62361	334000	71270
10.00m	9.00m	90000	19797	135000	29696	180000	39594	225000	49493	270000	59392	313000	69290	360000	79189
10.00m	10.00m	100000	21997	150000	32995	200000	43994	250000	54992	300000	65991	350000	76989	400000	87988

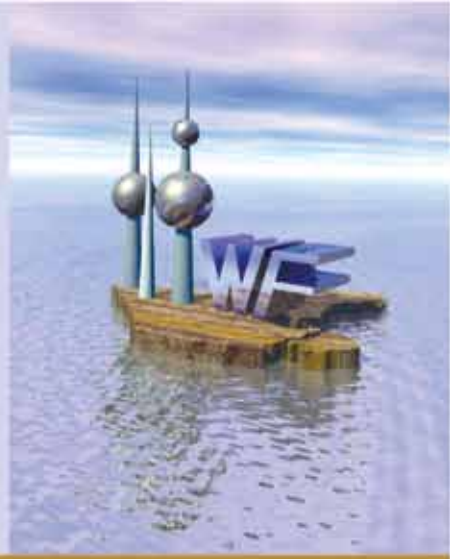


Litres

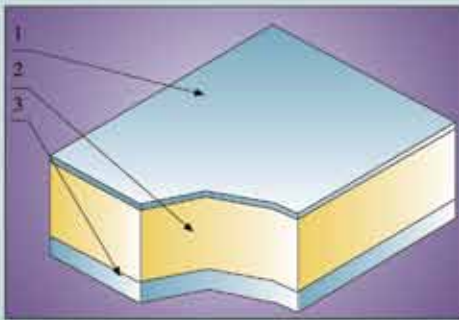


Imperial gallons

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G.R.P. INSULATED TANKS ACCORDING TO INTERNATIONAL SPECIFICATIONS



- 1- 3mm thick outer skin
- 2- CFC Free polyurethane closed cell insulation up to 20 mm thick before pressing and 5mm thick after pressed.
- 3- Inner load bearing skin of tank panel



MANHOLE



AIR VENT



ADAPTOR



FLANGE



FLANGE



INTERNAL LADDER



EXTERNAL LADDER



NUTS & BOLTS



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Matched Metal Die Molding.

Uniform thickness, void free panels.
Guarantees uniformity of product quality.
Eliminates part to part variation.
Uniformity of panel dimensions.
Constant and proven mechanical properties.

U-V PROTECTED.

Incorporated in the polyester resin formulation.
U-V resistant gel coat used as outer most layer of the panel.
Ensures long panel life.
Time tested.
High heat distortion temperature panels do not distort in extreme summer and winter.

Conditions of Middle East countries.

Special Features of WATANIYA G.R.P Panel Tanks.

- Eliminates light transmission.
- Eliminates possibility of algae growth.
- Engineered for easy & quick installation and commissioning with accurately drilled and aligned bolt holes.
- High strength to weight ratio.
- Uniform compression of the gasket through the flange length.
- Smooth gel coat finish on both faces ensures hygiene, does not harbour foreign matter.
- Excellent quality of stored water and other liquids.
Long service life.

Design:

The panels are designed using the latest technology and mechanical analysis such that stresses and deflections are minimised for high factor of safety and good performance of tanks. All panels are designed to withstand pressures in excess of their intended working pressures and are thus compliant with national and international standards worldwide.

ADVANTAGES OF WATANIYA G.R.P TANK.



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DURABILITY

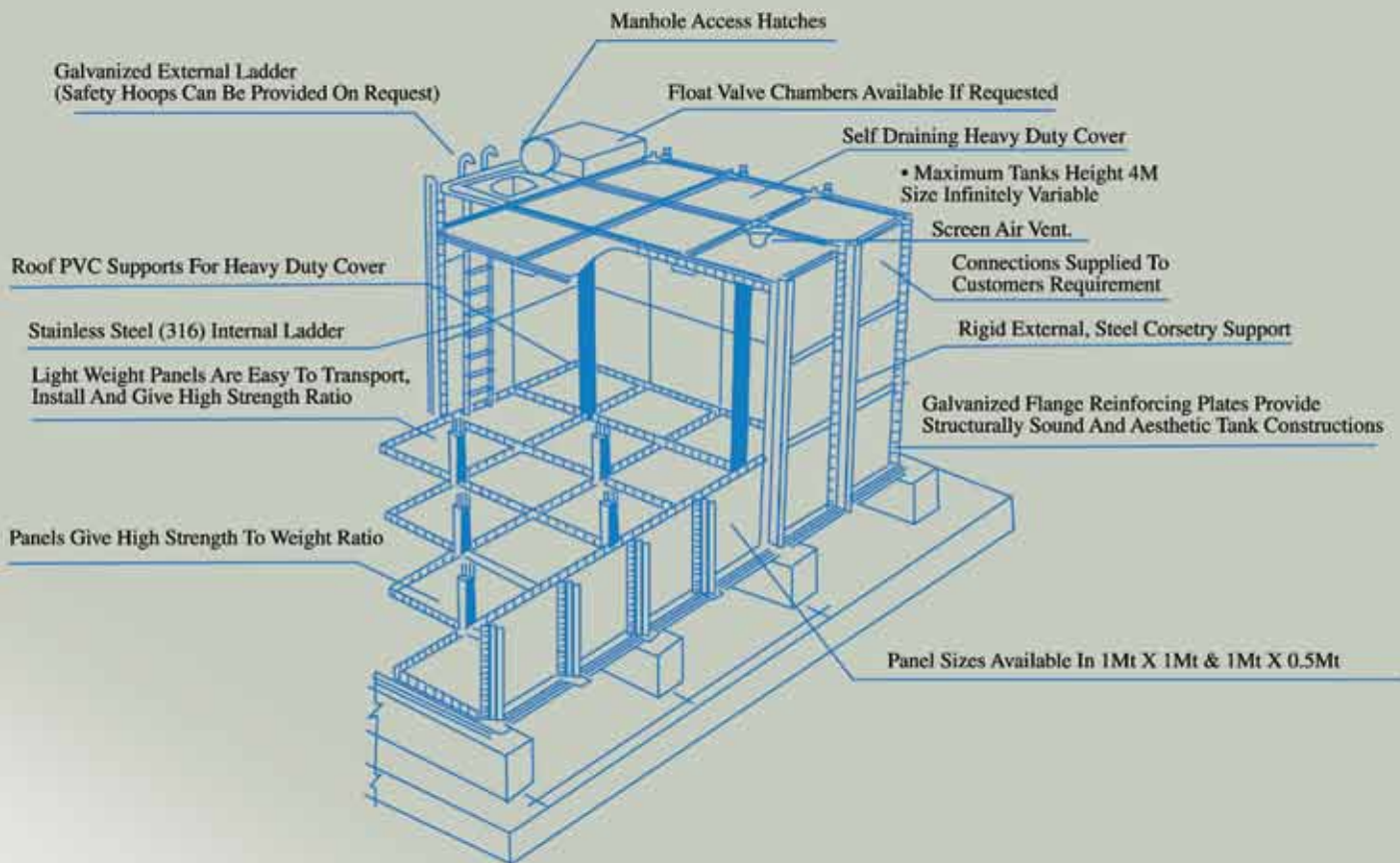
All Seasons



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G.R.P. Sectional Plan.



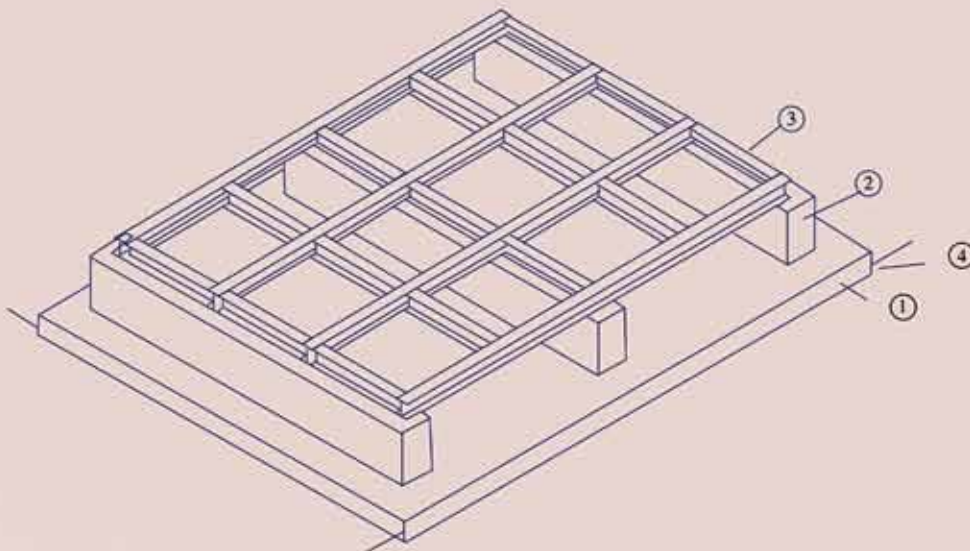


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FOUNDATION DETAILS

Concrete sleeper walls should be made for tanks with height 1M to 4M as instructed by shop drawings.

Individual steel beams or channels supported on sleeper walls at 90° with additional of cross beams at 90° to form a " Steel Support Grid" as shown in picture. The dimensions of steel support vary with the height of the tank.

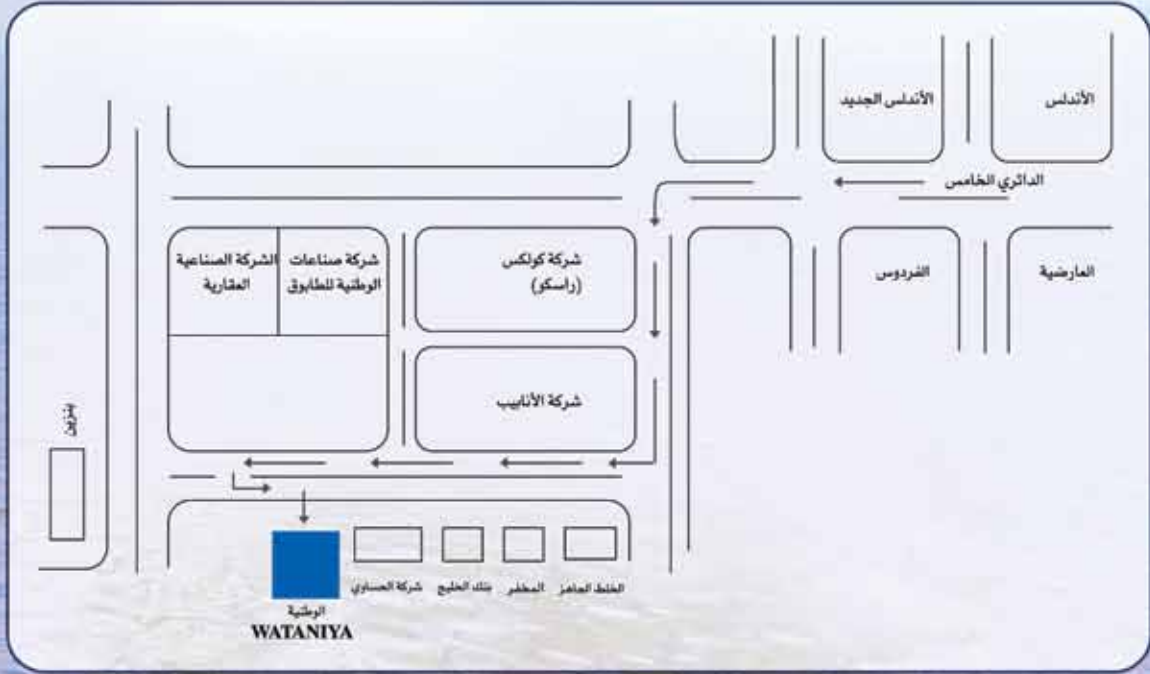


1	PLAIN CONCRETE UP & UNDERGROUND
2	CONCRETE WALL SLEEPER.
3	I BEEAM STEEL SUPPORT GRID
4	GROUND LEVEL

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[illegible][illegible]



Designed & Produced by Queen Island Est. 22400054 - 99494006



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